

## REVIEWERS GUIDELINES

### I. BACKGROUND:

The Environmental Monitoring and Assessment Program (EMAP) is a multipronged research approach to the development and utilization of ecological monitoring as a necessary and critical component of environmental management and protection. The Regional Environmental Monitoring and Assessment Program (REMAP) is an integral part of this program. Through REMAP, each of the Environmental Protection Agency (EPA) Regions and Office of Research and Development (ORD) work in partnership to evaluate and improve the EMAP approach as a tool for providing information on the condition of our nation's environment in a manner directly applicable to resource managers. The goals for REMAP are as follows:

Assist in incorporating the latest science on ecological monitoring into the Regional, State, Tribal and local decision-making process

Advance the science of ecological monitoring as a tool for Regional, State, Tribal and local problem formulation in risk assessments and measure the ecological results of risk management option selection

The selection and development of REMAP projects is a collaborative effort between ORD and the Regions. The criteria for selecting projects is based on the goals of the program. Because one of the goals is to assist in incorporating the latest science into the decision-making process, proposed REMAP projects must address real regional environmental issues where the results of ecological monitoring will influence resource management decisions.

Advancing the state of science of ecological monitoring is another goal of REMAP. To be considered for this program, projects must propose approaches to make incremental improvements in monitoring techniques. These improvements may include, but are not limited to, the application of existing or new techniques to new types of problems, testing and development of new indicators, verification of techniques and approaches as applied to previously untested environmental settings, application and evaluation of data analysis and presentation methods, and methods for identifying probable causes of existing environmental conditions. Advancing the state of the science also relies on the use of good scientific practices so that the information obtained will be accepted by the scientific (as well as the decision-making) community. As previously indicated, this will be verified through the use of rigorous external scientific peer review.

An important aspect of the REMAP program is that it is intended to introduce and help institutionalize new and improved approaches to ecological monitoring. ORD's EMAP program has

helped develop and demonstrate important aspects of these new approaches. Included are alternative approaches to designing and analyzing monitoring programs so that the results are statistically valid and can be used to characterize environmental conditions with known levels of confidence. Much of EMAP's success is the result of the application of probability based sampling designs. As part of a multiagency Committee on Environmental and Natural Resources (CENR) effort, EMAP will be participating in research to develop mechanisms for integrating these probability based results with those obtained from more site-specific intensive monitoring programs. REMAP projects must be conceived and implemented so that they are consistent with this approach and provide information that can be used in future integrated regional or local studies.

The outcome of the REMAP studies is both an assessment related to the specific study question and the production of data sets specific to the study. The data from REMAP studies, along with the required metadata, should be electronically available at or near the time of the final report publication. The data sets and accompanying metadata for the specific REMAP project can either be sent to the Atlantic Ecology Division for addition to the REMAP Web site (<http://www.epa.gov/emap/>) or incorporated into a Regional or State database that can be directly linked to the EMAP Web site. If the latter approach is used, arrangements must be made for long-term archival. ORD will provide written guidance on the federal data and metadata standards that must be followed. ORD will also assist the region and its partners in determining an approach to ensure that this data capture occurs.

The proposal selection process included submission of preproposals by the Regions that are reviewed by EPA's Office of Research and Development scientists. The focus of this phase of the review process is to verify that the proposed projects are consistent with the EMAP concepts. Those preproposals considered to be consistent are then selected for development into full proposals. This technical review of these proposals is an important step before funding decisions are made.

## II. PROPOSAL RESTRICTIONS:

Projects should not exceed \$200K per year. The proposed project period should not exceed two years (with REMAP funding).

## III. PROPOSAL FORMAT:

Each proposal should contain the following information:

1. Title Page
2. Table of Contents

3. Project Description--purpose, rationale, importance to the science of environmental monitoring and an overview of the project.
4. Project Objectives--specific questions/hypotheses, specify precision, accuracy, completeness, representativeness, and comparability of data required to meet objectives.
5. Technical Approach:
  - A. Overview of approach
  - B. Statistical design--sampling procedures and protocols
  - C. Sample tracking/custody procedures
  - D. Analytical procedures--referenced, complete procedures in Appendix A
  - E. Internal quality control checks and frequency
  - F. Performance and systems audit procedures and frequency
  - G. Preventative maintenance schedules and procedures
  - H. Data reduction, validation, management, and reporting procedures; including R-EMAP Information Management Reporting Requirements (see Policy described in the Background Section of this document ).
  - I. Specific procedures for assessing precision, accuracy, and completeness of data
6. Schedule, Milestones, Products and Final Reports
7. Budget--two years, specifying personnel costs, equipment costs, overhead costs---and cost-sharing by Regional Office and Cooperators
8. Personnel Qualifications, Project Management Structure, Personnel Time Commitments, and Personnel Responsibilities
9. References
10. Appendices:
  - A. Analytical Methods
  - B. Field Methods
  - C. Personnel Resumes

#### IV. REVIEW CRITERIA:

The criteria chosen for the review attempt to track the proposal elements. Each criterion has been assigned a maximum number of points that can be awarded for the criterion. In some instances, an integrated perspective of all the elements will be required to appropriately judge the merit of the proposal relative to some criteria. The criteria are explained below:

1. Consistence with REMAP concept (30 points):
  - Questions/hypotheses are clearly stated
  - Monitoring/surveys are an appropriate way to address questions posed
  - Results could influence environmental decision/management
  - Valuable test of EMAP concepts
  - Explicit identification of the resource population being sampled/targeted
  - Indicators are appropriate for the questions asked
2. Technical Merit (35 points):
  - Appropriate incorporation of existing literature
  - Sampling protocols and methods are adequate
  - Approach overall is meritorious
  - Sampling design is clearly specified and appropriate for hypotheses to be tested
  - Data analysis procedure adequacy
  - Adequacy of quality assurance/quality control procedures
  - S Specifics are given which describe how the data are to be managed and how the data and metadata files will be made available to the EMAP Web Site, either through direct transfer, or through placing on a different Web Server that can be linked to the EMAP Web Site
3. Costs and Schedule (10 points):
  - Budget is consistent with tasks to be performed
  - All costs are identified and are reasonable
  - Schedule is achievable
4. Project management (10 points):
  - Roles and responsibilities are clearly identified
  - Products and milestones well identified
  - Management structure appears appropriate
  - Adequacy of necessary facilities
5. Personnel Qualifications (10 points):
  - Appropriate expertise for research to be undertaken
  - Statistical expertise to support design and data analysis issues
  - Experience level of project team likely to accomplish proposed tasks
6. Chance of Success (5 points):
  - All things considered--can objectives be met
  - Realistic expectations evident

V. REVIEWER RECOMMENDATIONS:

It is important that the review be ended with a specific recommendation to either:

Fund as is

Fund with revisions, specifying changes required

Do not fund, specifying why

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Note: Forms will be provided to reviewers for both “scoring” proposals and for providing specific comments.

## DRAFT LETTER TO REVIEWERS

Dear \_\_\_\_\_:

I appreciate your willingness to be one of the reviewers selected to evaluate a proposed R-EMAP project. You have been chosen because of your expertise in the environmental and ecological sciences. It is important that any project funded by the Agency, either internally or externally, meet the scientific community's standards for technical merit. We are counting on you to see that such standards are achieved and maintained.

Enclosed are:

- N Guidelines that you should read carefully before beginning your review
- N A form that must be signed and returned verifying that you do not feel you have any conflict of interest in reviewing the submissions
- N A comment sheet for each proposal; it is most important that we receive detailed comments
- N A scoring sheet for you to complete
- N Proposal for your review

Remember at all times that the information contained in the proposal is privileged and provided solely for the purpose of this review. The proposals should not be used in any other way or disseminated to anyone. If you find yourself in conflict, please return the proposals promptly to me with a note explaining why you do not feel it is appropriate that you remain a reviewer.

Your comments should be returned in the enclosed envelope by \_\_\_\_\_. To maintain our schedule for funding successful proposals, we need your comments by this date.

Again, I appreciate your willingness to assist us. If you have questions concerning the review process, feel free to call me at \_\_\_\_\_.

Sincerely,

## COMMENT SHEET

PROPOSAL TITLE: \_\_\_\_\_

REVIEWER'S NAME: \_\_\_\_\_

(Please be as specific as possible when making comments. Please feel free to submit as detailed an evaluation as you would like.)

1. Consistency with R-EMAP Concept:

- a. Are the questions/hypotheses clearly stated?
- b. Are monitoring/surveys an appropriate way to address the questions posed?
- c. Could the results influence environmental decision/management?
- d. Does it provide a valuable test of EMAP concepts?
- e. Is the resource population being sampled/targeted explicitly identified?
- f. Are the indicators appropriate for the questions asked?

2. Technical Merit:

- a. Is there appropriate incorporation of the existing literature?
- b. Are the sampling protocols and methods adequate?

- c. Is there merit in the overall approach?
- d. Is the sampling design clearly specified and appropriate for the hypothesis to be tested?
- e. Is the data analysis procedure adequate?
- f. Are the quality assurance/quality control procedures adequate?
- g. Are specifics given which describe how the data are to be managed?

3. Costs and Schedule:

- a. Is the budget consistent with the tasks to be performed?
- b. Are all costs identified; are they reasonable?
- c. Is the schedule achievable?

4. Project Management:

- a. Are the roles and responsibilities clearly identified?
- b. Are the products and milestones well identified?



c. Is the management structure appropriate?

d. Are the necessary facilities adequate?

5. Personnel Qualifications:

a. Is the appropriate level of expertise for the research to be undertaken?

b. Does statistical expertise exist to support design and data analysis issues?

c. Does the experience level of the project team make it likely that the proposed tasks will be accomplished?

6. Chances of Success:

a. All things considered, can the objectives be met?

b. Is there evidence that the expectations are realistic?

7. Recommendation:

a. Should the proposal be funded?

b. Funded with revisions?

c. Should the proposal not be funded?

PROPOSAL TITLE:\_\_\_\_\_

REVIEWERS NAME:\_\_\_\_\_

PROPOSAL REVIEW SCORING FORM  
R-EMAP

Consistency with EMAP Concept (30)	Technical Merit (35)	Cost and Schedule (10)	Project Management (10)	Personnel Qualifications (10)	Chance of Success (5)	Total

PROPOSAL No.: \_\_\_\_\_

REVIEWER: \_\_\_\_\_

I hereby certify that to the best of my knowledge and belief, no conflict of interest exists which may diminish my capacity to provide an impartial, technically sound, objective review of the subject proposal or otherwise result in a biased opinion or unfair competitive advantage.

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)